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Funders Explore Opportunities To Support Sustainable Aquaculture

By Mark Spalding, *The Ocean Foundation*[1]

In 2004, the United Nations Food and Agriculture Organization (UNFAO) "State of the World's Fisheries" report stated that, "52 percent of the oceans' wild fish stocks are fully exploited. Of the rest, 23 percent are lightly or moderately exploited and still offer some scope for further fisheries expansion, 16 percent are overexploited, 7 percent are depleted, and 1 percent are recovering from depletion, meaning they have no room for further expansion."[2] Meanwhile, 20 percent of our ocean planet's people depend on seafood as a significant protein source and the appetite for seafood is steadily increasing.

Partially in response to the decline of wild fisheries, captive seafood production for market has expanded dramatically. In 1970, aquaculture accounted for 3.9 percent by weight of the total global supply of fish, shellfish, and crustaceans, and by 2002 increased to 29.9 percent, and according to the UNFAO in 2003 it was 40 percent. Multilateral development lenders and international aid agencies are promoting aquaculture for economic development and as a source of protein for the masses. The US currently imports approximately 70 percent of its seafood supply, and, of this, 40 percent is farm-raised.[3]

We are familiar with the goals we are trying to achieve with aquaculture. A safe, clean, sustainable way to replace depleted wild fish stocks (as a protein source for humans) and to reduce the pressure on remaining wild stocks, and, from a business perspective, to do so at relatively low cost.

The laundry list of known harms from open net aquaculture is also familiar. They mirror those of terrestrial concentrated animal feeding operations (CAFOs). Waste problems include detritus, antibiotics,[4] excess feed, and diseases. Escaped fish have invaded streams and coastal areas.

Such dirty aquaculture is predominant, despite progress being made in some areas. The technology for cleaner systems has been developed, but it is costly in comparison. It is time to level the playing field, by increasing the costs of dirty farming -- polluter pays, farmer compensates for damages from escapes and disease, etc. And, we can look at well-developed terrestrial CAFO strategies and adapt those to our new underwater feedlots of the sea.

Perhaps most challenging is the seafood conversion ratio problem, whereby farmed fish are fed wild fish and fish products. Carnivore farming (salmon, tuna, shrimp, etc.) for the high-end market is the area of greatest growth. Current practices do not result in a net increase in protein at the global level. Despite increases in the grain component of feed, salmon and other carnivores must be fed fish meal to complete their growth and give them that "fishy" taste.
Thus, even with the grain substitution, the increasing farming of carnivore species may offset any reduction

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in their wild capture fishing pressure. The offset would just shift to small fish fisheries, which are the primary source of fish oil and fishmeal finishers. In addition, there is an expanding demand for cheap fishmeal to feed poultry in China and elsewhere —a significant percentage of the Peruvian anchovy fishery is going to meet China's demand.

"To provide delicacies for consumers in wealthier nations, oceans are plundered and dinner plates in poorer countries are emptier . . . To ensure we pass on healthy oceans and a more stable world, it is important to reassess our sense of entitlement to natural resources needed by others to simply survive. The costs of feedlot production of fish may be under the waterline and out of sight, but a huge bill will come due unless we base our decisions on sound science, not wishful thinking."[5]

Is it too late for the US to enter the market for aquaculture from an economic standpoint? It is hard to imagine how the US nearshore or offshore aquaculture market will take off as long as there is good supply from Chile, Norway, Ecuador and other places. Just as it is cheaper to make clothes in developing nations, it is cheaper to grow fish there too. Thus, we need to address the problems with aquaculture via the demand side, probably at the level of consumers because we cannot regulate in the territorial waters of other nations.

What is the Problem?

Because we operate from a conservation and sustainable use perspective, we are all in agreement that overfishing, and related overcapitalization and by-catch (or "by-kill" for utilized by-catch) are among the primary threats to our ocean's health. Related to this, some of our industrial fishing gear, besides being indiscriminate, destroys habitat. In addition, fisheries are managed to maximize commercial fish production, and are not managed to ensure that the ecosystems in which they operate are healthy. We also are addressing these threats to indirectly increase the ocean's resilience in the face of climate change.

A Solution is Aquaculture

Done correctly, sustainable aquaculture could reduce the need for wild fisheries for human consumption, thus avoiding some overfishing, by-catch, adverse ecosystem impacts, and habitat destruction. Unfortunately "done correctly" is still a very long way off. With herbivores and some omnivores, successful fish farming with minimal impact is possible, and in practice. Smaller aquaculture operations show great promise for meeting local protein needs in developing countries. In fact most experts agree that such more traditional aquaculture practices, especially polyculture[6] operations that produce their own inputs and take care of their own wastes, are the most sustainable. However, with carnivores, it is a compromise. Addressing the problems of fish waste, antibiotic use, escapements, and other operational issues does not address the underlying problem of feeding fish to fish. Setting standards for farmed salmon production will set a precedent for standards in other carnivorous finfish operations.

Funder Options

The options open to funders are many. They include indirect actions like promoting better forage fish management in US waters and to the extent practicable, within international agreements. Or they can address domestic policy such as resisting the expansion of aquaculture in US waters without the regulatory level playing field that will protect our wild fisheries (to the extent possible); or making some effort to improve inspection/standards for what's coming in to ensure the fish is at least safe to eat. Some of the options identified by the CGBD Marine Working group follow.

Support the Watchdog Role of NGOs

- Providing testing information on seafood contaminants (including dyes and other inputs) to the media, to regulatory agencies, and to the public—despite industry, American Medical Asso, American Heart Asso, other medical, and National Oceanic & Atmospheric Administration (NOAA) messaging to the contrary.

- Beginning outreach to the medical community to support fisheries conservation and ecologically sound aquaculture as necessary to sustain future diets that are high in seafood and thus omega 3 fatty acids (being undertaken by Environmental Defense and others).
- Participating in the development of organic standards for seafood (about to be formally proposed by US Department of Agriculture)
- Collecting data on impacts—including bird and marine mammal shootings by farm operators, etc.—to promote enforcement of applicable laws (e.g. Marine Mammal Protection Act, Endangered Species Act, Clean Water Act, etc.)
- Supporting efforts to prohibit creation and/or escape of genetically modified organisms (GMOs) and exotic species

Supporting Aquaculture Coalitions

- The national and regional organizations working to stop federal "rigs to reef"[7] legislation and the broader NOAA offshore aquaculture expansion proposals[8]
- The regional efforts by a broad array of fishing organizations and other stakeholders working against aquaculture operation proposals in state and federal waters
- The efforts to develop standards for certification of sustainable aquaculture practices
- The international coalition (including NGOs from Canada (CAAR), Chile (Oceana, Terram and Ecooceanos), the Netherlands and the US (Institute for Agriculture & Trade Policy and National Environmental Trust) who are working to generate pressure on large retailers and producers through shareholder activism and public outreach.

Aquaculture Research

- Ways to improve feed-product ratio to reduce pressure on wild fisheries
- Impact of aquaculture on forage fisheries (e.g., anchovies and menhaden), including new ecosystem based management tools to assess the forage fisheries
- Relationship of aquaculture to invasives, either through escapements or "piggy back species" (unintended companions to spat, fry, etc.)
- Impact of different aquaculture sectors on world protein supply—e.g., carp and tilapia production in Asia; proposed multi-lateral projects to expand aquaculture in Africa
- Economic analysis of offshore and near shore aquaculture vulnerability to major storms, tsunamis, and other disasters, in comparison to inland, closed systems
- Analysis and solutions to economic and social justice impacts of commercial aquaculture operations
- Technological and economic research on environmentally friendly innovations such as closed systems and integrated aquaculture
- Evaluate what sustainable aquaculture practices are for different species

Developing a Level Playing Field

Researching and developing policy options that define liability and provide an enforcement structure would ensure that the full costs of salmon and other aquaculture are internalized. Such options might consider:

- Who pays for damage to local fisheries, and the economic impact on local and distant commercial fishermen (e.g., reduced prices earned by Alaska fishermen for their certified wild product because of farmed Chilean salmon)?
- Who pays for impact of escapements—disease, inbreeding, and displacement?
- Who pays for cleanup of invasives (e.g., tunicates in abandoned Maine oyster beds)?
- Who pays for toxic load impact, clean up under net pens, habitat destruction?
- How (and who) can aquaculture operations reimburse for the use of the commons (e.g., grazing permits)?
- Can the conservation community buy permits and retire them in critical coastal waters to protect the benthic community and nearby wild populations?

Capital Cost Reductions (Program Related Investments-PRI)

- Closed aquaculture systems, land-based or in coastal waters, are expensive to build and increase the cost of the product sold. The timeline for achieving profitability is dependent on a number of factors, including energy costs, price of fish, and the cost of inputs. However, the up-front capital costs limit experiments with taking production to scale, especially in the US
- Funders could consider a PRI that reduced the up-front capital costs of projects, and, choose to receive a lower rate of return over a longer period—much as has been done to promote sustainable communities (affordable housing, etc.)

Certifying & Eco-Labeling Aquaculture

The idea of eco-labeling sustainable seafood has become increasingly popular. Product labeling based on environmental criteria includes a broad range of practices such as self-labeling by producers as a form of advertisement, government-mandated labeling such as nutritional content labels, and third-party eco-labeling, usually based on specific criteria denoting sustainability. There is abundant evidence that these claims help to sell product, especially when cost is comparable. However, there are challenges to ensuring that eco-labels represent practices that promote healthy oceans.

Certification schemes can be excellent mechanisms for informing the public about sustainable, eco-friendly products. Mechanically:

1. Certification is one aspect of the development of eco-labels
2. Eco-labels allow consumer choice
3. Consumers making the right choice should result in market pressure
4. Market pressure, absent any countervailing force, should foster changes in fishing practices
5. Changes in fishing practices should improve conservation of the ocean

Seafood, which used to be sold with little identification from an iced display case and wrapped unlabeled in white butcher paper, is rapidly becoming part of the eco-labeling trend. While we have a government program (COOL) to label the origin of our fish, and whether or not it is farm-raised or wild-caught, there are other labels. There are at least 14 international labels, and 10 domestic labels that are supported by either industry or NGO dominated organizations. Ultimately, the Organization for International Standards Environmental Management Standards and Quality Assurance Standards, as well as the Codex Alimentarius and the UNFAO guidelines on marine ecolabeling may influence all of these programs. The most prominent certification leading to a label is the industry's Global Aquaculture Alliance "Best Aquaculture Practices" as certified by the Aquaculture Certification Council (ACC).[9]

Certified fish (eco-labeled fish) can be an "ask" in a markets campaign to influence consumers or mid-level wholesale buyers, even as ocean ecosystem management goals are pursued at the legislative and regulatory levels. Setting the bar too low in certification can be detrimental to a markets campaign in that it can be difficult to move the bar up as new data becomes available. Further, when done poorly, certification serves as a badge of false accomplishment for the fishery and challenging the falsehoods may reduce consumer confidence in the whole and reduce opportunities for real improvement.

Our challenge is to find a real solution/alternative/option to drive the market toward. All certification has its challenges, as to credibility, appropriate sourcing, and tradeoffs. Yet, a list of certified products (e.g. wood, coffee, and organic foods) has been created to fill consumer needs and achieve certain goals. With home appliances, regulation has moved the market to offer consumers significantly more efficient products. To meet energy needs, we can continue move the market toward cleaner alternatives and greater efficiency measures through both regulation and consumer education.

At present, we don't have a credible alternative for seafood. The US market is dominated by consumer demand for some of the least sustainable products (salmon and shrimp). It is hard to see what wild stocks are in sufficient abundance to serve as recommended alternatives, even if we acknowledge that any shift in consumer demand will take significant time and resources to achieve. Farmed herbivores and omnivores (e.g., tilapia, catfish, barramundi, and rainbow trout) serve as possible examples of alternatives that can be recommended and may become a bigger percentage of the market with help.

Facilitating Uniform Standards

If we are going to fund certification systems that lead to eco-labels to influence consumer choice, we need to ensure they address three categories of concern:

- Food Safety
- Animal & Human Welfare (including economic, social and cultural protections)
- Ecosystem-based Management

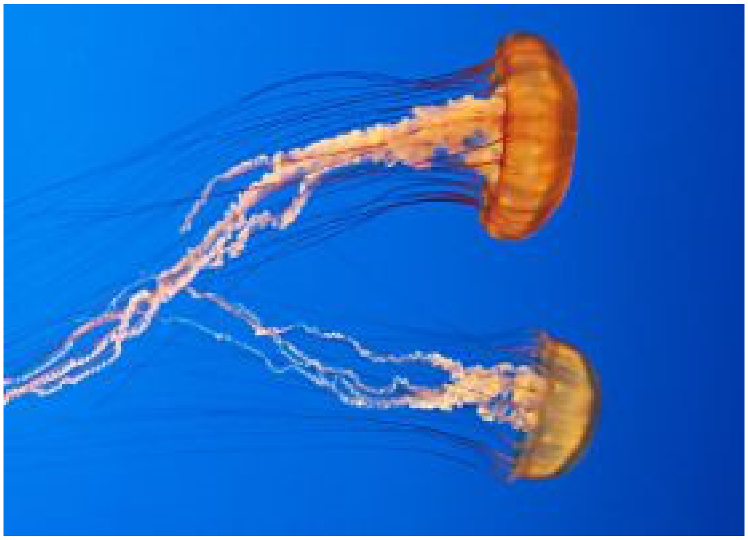
Specifically, as funders we can continue to:

- Bring together the NGOs/corporations currently working on salmon aquaculture best practice goals and ensure that those goals are uniform, aim at the least amount of impact on the local economy, the marine ecosystem, and wild fisheries [Example: World Wildlife Fund aquaculture standards development and work with Wal-Mart & Metro to use Marine Stewardship Council certified wild fish; the New England Aquarium's ChoiceCatch project that includes working with Ahold; the work of Environmental Defense with Wegmans]

- Ensure that any aquaculture standards, be they government or private, are developed in conjunction with a strong voice for the affected ecosystems, fisheries and habitats
- Encourage strategic cooperation among NGO watchdogs and NGOs working on corporate standards, so that their efforts better leverage each other.

Conclusion

Aquaculture remains both a threat and a promise. It can achieve its promise through promotion of standards, expansion of relevant research, and a focus on meeting the protein needs of all communities, including marine predators. Many argue that shrimp and salmon farming (for example) are here to stay and we need to work to ensure that production meets the highest possible standards. For all aquaculture, certification guidelines must address its threats to investment in conservation of wild marine ecosystems: increased organic loading, increased inorganic loading, residual heavy metals, transmission of disease organisms, residual therapeutants, biological interaction of escapes with wild populations, use of



artificial pigments and dyes, physical interaction with marine wildlife, physical impact on marine habitat, using wild juveniles for grow-out, and harvesting industrial fisheries for aqua-feeds.

Addendum A: Standard Aquaculture Certification Topics

In the end, certification to standards for aquaculture is one tool that will allow fish farmers and policy makers to make informed decisions on how and what species to culture. The gold standard for such a certification scheme is beyond the scope of this paper. However, the following is an introductory list for discussion purposes:

- Documented EMS (environmental management system) and record keeping
- Confirmation and management of inputs (biological, labor and energy)
- Management of chemicals and antibiotics
- Segregation and/or demarcation of certified organic and non-certified feed inputs
- Secure product labeling
- Identification and chain of custody of certified outputs
- Avoid farming carnivores
- Effects on other wildlife
- Do not site farms in a way detrimental to recovery plans for overfished fish stocks
- Assimilation of waste into polyculture operations, or use of closed systems, and feed lot/CAFO style controls to dispose of wastes
- Emphasize site selection to avoid escapes due to storms
- Genetic impacts

To show some additional items for discussion, we reproduce here the (British Columbia) Living Oceans Society's list of when fish farming should be considered safe for humans and protective of ecosystems:

- Develop and adopt technology that eliminates the risk of disease transfer to wild fish and escapes of farmed salmon into the wild
- Guarantee fish farm waste is not released into the ocean
- Label all farmed fish so consumers can make informed choices
- Use fish food that does not result in a global loss of seafood for human consumption
- Ensure that salmon predators are not harmed as a result of fish farming
- Prohibit the use of genetically modified fish
- Eliminate the use of antibiotics from fish farming
- Respect the views of coastal residents and not locate farms where First Nations or other communities object

Addendum B: Resources

An introduction to eco-labeling **http://www.gen.gr.jp/publications.html**

FTC Part 260 **http://www.ftc.gov/bcp/grnrule/guides980427.htm**

ISO label use guide **http://www.iso.org/iso/en/iso9000-14000/certification/publicizing/index.html**

Food and Agriculture Organization of the United Nations (FAO). Fish-Stat-Fishery Information 2003, Data and Statistics Unit.

FAO. Review Of The State Of World Marine Fishery Resources, FAO Fisheries Technical Paper #457, 2004.

FAO Committee on Fisheries has adopted guidelines for "eco-labeling" of fish caught at sea **http://www.fao.org/newsroom/en/news/2005/100302/index.html**
NOAA Aquaculture website: **http://www.lib.noaa.gov/docaqua/frontpage.htm**
The Institute for Agriculture & Trade Policy website: **http://www.iatp.org/fish**
Articles by the Pacific Coast Federation of Fishermen's Associations (PCFFA) are online at: **http://www.pcffa.org/fn.htm**

Footnotes

[1] This article includes sections drawn from a memo of the aquaculture sub-group of the CGBD Marine Working Group. The memo was prepared for the Working Group meeting in Belize in March 2006.

[2] Review Of The State Of World Marine Fishery Resources, FAO Fisheries Technical Paper #457 at page 6.

[3] Farmed shrimp and salmon dominate both American seafood consumption and seafood imports.

[4] As with livestock, antibiotics are fed to fish, both to speed growth and treat diseases.

[5] Moseness, Anne "Aquaculture keeps poor countries hungry" Seattle Post Intelligencer Friday, March 24, 2006

[6] Polyculture is the farming of several species of aquatic organisms, often including both plants and animals within the same area.

[7] Among the congressional proposals is one to allow oilrigs to be used as platforms for aquaculture operations, thus eliminating the costs of appropriate decommissioning for the oil industry.

[8] The goal of the legislation is to establish a 5 billion dollar per year aquaculture industry in the U.S. To meet this goal the bill would subsidize high-value, fast-growing fish, including cod, salmon, moi, tuna, snapper, halibut, and others. The bill would give preference to aquaculture projects that anchor net pens to decommissioned oil drilling platforms, freeing oil companies from costly legal requirements to remove the platforms.

[9] The ACC certification program serves four goals: (1) social responsibility, (2) environmental responsibility, (3) food safety, and (4) traceability.

CGBD WORKING GROUPS

Health & Environmental Funders Network

HEFN is hard at work planning the fall retreat of the HEFN Catalysts for a Healthy Future. This will be an intensive funder meeting on chemicals, environment and health for Catalysts and other interested funders on the eve of the Environmental Grantmakers Association's fall retreat. The Catalyst meeting will run all day Saturday, October 7 and the morning of Sunday, October 8, to be followed by a HEFN/Environmental Grantmakers Association (EGA) Institute session for newcomers on Sunday afternoon and several great environmental health-related sessions on the EGA retreat agenda.

At the same time, HEFN staff are distributing a survey on grantmaking on women and environmental health, with hopes of creating a stronger shared knowledge base about the grantmakers – across several funder communities – who may be engaged or interested in this area. This first step will not only offer useful information to individual grantmakers, but can also help us explore ways to support broader philanthropic collaboration.

HEFN has taken on a new project, in conjunction with the Neighborhood Funders Group (NFG), to produce web resources on grantmaking opportunities to promote healthy environments. The resources focus on grantmaking related to low-income communities and communities of color, and are aimed to be particularly useful for individual donors and unstaffed family foundations. Once the work is completed, HEFN and NFG will collaborate on outreach and dissemination, with an aim of deepening and broadening relationships between our members (largely staffed foundations) and the much bigger universe of donors and unstaffed foundations that are potential philanthropic partners.

In the past few months, HEFN members have participated in monthly conference calls on issues of interest, including: "Environmental Justice For All Tour: Linking Communities with EJ and Health Anchor Groups," "Civic Engagement and Environmental Health," and "Moving Environmental Health into the Marketplace."

Lastly, a reminder to funders and NGOs engaged in Gulf Coast work, that there is a funder matchmaker website to minimize barriers between groups in the field actively engaged and funders interested in supporting them. NGOs may post funding requests on the website, **www.ccp.org**. The requests will be posted on a password-protected site for viewing by funders only.

Climate and Energy

May was relatively quiet following the successful Climate and Energy Funders Group Annual Meeting held in Phoenix, in late April at the Desert Botanical Gardens. The meeting garnered the most attendees since the inception of the Climate and Energy Funders Group. The meeting generated a number of ideas for making the Climate and Energy Funders Group even more effective to the membership as a whole, including creating a directory for who funds what, establishing informal work groups based on regions or sectors (building on the success of the New England collaboration), and hosting topical and regional meetings.

June found most of the Climate and Energy Funders Group members focused on the Consultative Group on Biological Diversity Annual Meeting. One of the field trips at the Annual Meeting in Colorado examined experiments on the likely impacts of climate change on the Alpine Tundra. The field trip visited a snow-fence experiment with extensive alpine tundra, a variety of glacial landforms, glacial lakes and moraines, cirques and talus slopes, patterned ground, and permafrost.

The Climate and Energy Funders Group featured the first follow up conference call to the Climate Annual Meeting. The July 12th call focused on energy efficiency. Because of recent political developments, there is currently an opportunity to raise millions in additional money for efficiency. Energy efficiency saves consumers money, reduces pollution, and lessens America's dependency on foreign oil. The US cannot address climate change without significant gains in energy efficiency. Specific opportunities to move energy efficiency forward include, but are not limited to:

- Expanding efficiency and renewable energy investments in New England through an emerging, multi-billion dollar market being established by the regional electric grid operator, known as ISO-New England (see attached).

- The Regional Greenhouse Gas Reduction Initiative in the Northeast will mobilize additional for efficiency because 25 percent of emission allowances will be auctioned, with the proceeds going to a public benefits fund, which will yield efficiency investments.

- On the federal level, it is important to extend the current tax incentives for energy efficiency. The political prognosis for extending tax incentives is very good. However, these incentives are best combined with efficiency standards, which have been harder to win in the current political environment.

The September (date to be determined) conference call will feature Biofuels 101.

Conservation Science

With the 2006 CGBD Annual Meeting focusing on the relationship of science to the work of funders, it became apparent that we needed to get a better handle on how CGBD members use "conservation science" in their grantmaking. With that in mind, several key members of the Conservation Science Funders group worked closely with Foundations of Success to design and administer a survey of conservation science grantmaking among CGBD members.

The Conservation Science Funders resumed their regular schedule of conference calls in early June. On the call, funders were be joined by Dr. Jim Reichman of the National Center for Ecological Analysis and Synthesis (NCEAS). Many funders have followed NCEAS' work and a number of CGBD members support it. Call participants learned more about NCEAS' solutions-oriented approach specifically, but Jim's presentation served as grist for a larger discussion on the topic of applying scientific information to conservation.

Marine Conservation

The Working Group continued their monthly conference calls in May, with an agenda that focused on efforts to follow up on the landmark work of the US Oceans Commission and the Pew Oceans Commission. Laura Cantral of the Meridian Institute and Will Stelle of Preston, Gates and Ellis joined funders on the call and discussed state, regional and federal opportunities to push forward the Commissions' recommendations.

The Marines convened their June conference call on the subject of aquaculture. Gerry Leape of the National Environmental Trust let call participants know where the federal offshore aquaculture proposals stands, including a summary of the Congressional hearings, and an overview of some of the other emerging issues in the field. Tim Eichenberg of The Ocean Conservancy provided an overview of the recently passed California legislation, its strengths and weaknesses, and any potential obstacles to its implementation -- and a summary of the kinds of aquaculture operations that are likely to be attempted in California waters. He also gave participants a sense of the various partners and stakeholders involved in such projects.

Tim provided the following documents for review prior to the call:
- A copy of the new California law
- Fact sheet on the CA bill
- Fact sheet on the impacts of fish farms
- His June 8 statement before the Senate Commerce NOPS Subcommittee on the federal bill

The Baja California/Sea of Cortez funders also continued to convene regular conference calls. On the May call, the major topic was, "Shrimp trawling: Where's the industry headed?" Alejandro Robles of Noroeste Sustentable addressed the structural and economic changes happening in the Gulf of California shrimp fishery and discussed opportunities for conservation given those changes.

On the June call, funders were joined by Dr. Horacio de la Cueva from CICESE (The Scientific Investigation and Higher Education Center of Ensenada). CICESE is the premier research institute for Northwestern Mexico with projects ranging from California condor release to marine surveys of great white sharks in Isla Guadalupe. CICESE and Terra Peninsular have targeted Colonett because of its importance for endemic species, as well as its intact coastal matorral habitat. Colonett is also the site of a proposed industrial complex that will include Mexico's largest port, a rail line to Tecate, new roads, and hundreds of warehouses, port facilities, and offices. Land speculation is already rampant in the area, but there is still a chance to influence decisions about how the complex is designed, where the buildings go, and potential mitigation and conservation areas.

On July 20, the Baja California/Sea of Cortez subgroup hosted a donor workshop on coastal development in Northwest Mexico at the Packard Foundation Taaffe House in Los Altos, California. The workshop, took a close look at the tourism development practices that currently threaten Northwest Mexico's coasts.

The agenda included a presentation from Sandra Guido of ALCOSTA, the coalition and watchdog network that is monitoring coastal tourism development in Northwest Mexico. ALCOSTA has been monitoring the trends and the impacts of 48 coastal developments in the Gulf of California, and identified recommended "best practices."

A second presentation was be provided by IMCO (The Mexican Institute for Competitiveness) on the results of their study examining tourism development business in Northwest Mexico, its viability given water availability, market conditions, and infrastructure costs versus "sustainable tourism." IMCO representatives also presented a plan for alternative tourism investment that might be shared with investors and government officials.

The presentations were followed in the afternoon with some strategic discussions on how funders might work together to promote a vision for more sustainable tourism development in the region.

Land and Freshwater Conservation

In early May, the Working Group hosted the next in its series of semi-regular conference calls regarding the Roadless Area Conservation Rule. On the call, funders were joined by Rob Vandermark and Mat Jacobsen of the Heritage Forest Campaign and Kristen Boyles of Earthjustice. Funders were updated on the status of legal challenges to the Bush Administration's repeal of the roadless rule. They also heard news regarding the petitions being filed by various governors to the US Interior Department requesting protection of US Forest Service roadless areas within their states.

Later in May, Working Group members participated in a conference call regarding the future of the National Environmental Policy Act (NEPA). Joining funders on the call was Bob Dreher, author of NEPA Under Siege and formerly with the Georgetown Environmental Law & Policy Institute. Bob reviewed key elements of the statute as well as recent legislative and administrative efforts to weaken it.

On June 8, the Working Group convened its "monthly" conference call on the Arctic National Wildlife Refuge. Carl Pope, Executive Director of the Sierra Club, joined funders on the call to give an update on the current status of the refuge campaign, with a special focus on how the debate over energy development in the Arctic National Wildlife Refuge will play out in the fall elections. Carl and the Sierra Club have been working to protect the Arctic Refuge from oil and gas development for over 30 years, and he brings a unique perspective to this update.

MEMBER NEWS

The Christensen Fund is delighted to announce that Dr. Gleb Raygorodetsky has joined the Fund as Program Officer for the Global Biocultural Initiative, to take the lead on the indigenous landscapes, knowledge building, and adapting to global change grant making. Born and raised in a small coastal village in Kamchatka, Russia, Gleb is a conservation biologist with expertise in resource co-management and traditional knowledge systems. His work has ranged geographically from the Brazilian Amazon to the Canadian Beaufort Sea to the Russian Altai Mountains, and thematically from studying fledging synchronicity of sea birds to documenting traditional knowledge of indigenous people.

Gleb comes to the Christensen Fund from the New York-based Wildlife Conservation Society (WCS) where, for the last five years, he managed a portfolio of conservation projects in Kamchatka, Russia. His photographs have won international awards and appeared in numerous reports and web-based publications, the Wildlife Conservation Magazine, Cultural Survival Quarterly, and the Metropolitan Museum of Art. Gleb holds a B.S. in Biology from the Far Eastern State University (Vladivostok, Russia), an M.S. in Biology from the University of Alaska, Fairbanks, and a Ph.D. from an interdisciplinary program at Columbia University.

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